

Applicant : Shafiq M. Jamal et al.,
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 2 of 30

Attorney's Docket No.: MP0430 / 13361-083001

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-4. (Cancelled)

5. (Currently amended) A circuit, comprising:

a charge-pump operable to supply an output voltage;

a current mirror responsive to the output voltage of the charge-pump, and

operable to output a relatively constant current and suppress noise from the output voltage; and

a filter arranged between the charge-pump and the current mirror, the filter

operable to further suppress noise from the output voltage.[:]]

wherein the current mirror is operable to isolate the filter from a load circuit in communication with the current mirror.[:]]

the charge-pump is directly coupled to the current mirror, and [[:]]

[[wherein]] the load circuit includes a regulator loop operable to generate a consistent output voltage.

6. (Currently amended) A circuit, comprising:

a charge-pump operable to supply an output voltage;

a current mirror responsive to the output voltage of the charge-pump, and

operable to output a relatively constant current and suppress noise from the output voltage; and

a filter arranged between the charge-pump and the current mirror, the filter

operable to further suppress noise from the output voltage.[:]]

wherein the current mirror is operable to isolate the filter from a load circuit in communication with the current mirror.[:]]

Applicant : Shafiq M. Jamal et al..
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 3 of 30

Attorney's Docket No.: MP0430 / 13361-083001

the charge-pump is directly coupled to the current mirror, and [[:]]

[[wherein]] the load circuit includes a voltage reference generator operable to generate a reference voltage.

7. (Currently amended) A circuit, comprising:
a charge-pump operable to supply an output voltage;
a current mirror responsive to the output voltage of the charge-pump, and
operable to output a relatively constant current and suppress noise from the output voltage; and
a filter arranged between the charge-pump and the current mirror, the filter
operable to further suppress noise from the output voltage, [[:]]

wherein the current mirror is operable to isolate the filter from a load circuit in communication with the current mirror, [[:]]

the charge-pump is directly coupled to the current mirror, and [[:]]

[[wherein]] the load circuit includes a voltage controlled oscillator operable to generate an output signal having a pre-determined oscillation frequency.

8. (Cancelled)

9. (Currently amended) A circuit, comprising:
a first charge-pump operable to supply an output voltage; and
a current mirror responsive to the output voltage of the charge-pump, and
operable to output a relatively constant current and suppress noise from the output voltage; and
one or more second charge-pumps operable to supply an output voltage, [[and]]
wherein at least one of the first and second charge-pumps is directly coupled to
the current mirror, and

[[wherein]] the current mirror is operable to suppress noise from the output voltage of the one or more [[plurality of]] second charge-pumps.

10. (Original) The circuit of claim 9, wherein the current mirror is operable to reject variations in the output voltage of the plurality of charge-pumps.

Applicant : Shafiq M. Jamal et al..
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 4 of 30

Attorney's Docket No.: MP0430 / 13361-083001

11. (Original) The circuit of claim 9, further comprising:
one or more filters arranged between the plurality of charge-pumps and the current mirror, the one or more filters operable to further suppress noise from the output voltage of the plurality of charge-pumps.
12. (Original) The circuit of claim 11, wherein at least one of the one or more filters includes a bypass capacitance.
13. (Currently amended) The circuit of claim 9 ~~[[11]]~~, further comprising:
a plurality of current mirrors, each current mirror operable to provide a constant current to a corresponding load circuit and suppress noise from a corresponding output voltage of one or more of the first charge-pump or one or more of the second charge-pumps ~~[[a charge-pump]]~~.
14. (Original) The circuit of claim 13, wherein at least one of the plurality of load circuits includes a regulator loop operable to generate a consistent output voltage.
15. (Original) The circuit of claim 13, wherein at least one of the plurality of load circuits includes a voltage reference generator operable to generate a reference voltage.
16. (Original) The circuit of claim 13, wherein at least one of the plurality of load circuits includes a voltage controlled oscillator operable to generate an output signal having a pre-determined oscillation frequency.
- 17-20. (Cancelled)
21. (Currently amended) A circuit, comprising:
supply means for supplying an output voltage;
suppression means for suppressing noise from the supplied output voltage and converting the supplied output voltage into a relatively constant current; and

Applicant : Shafiq M. Jamal et al..
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 5 of 30

Attorney's Docket No.: MP0430 / 13361-083001

filtering means arranged between the supply means and the suppression means,
the filtering means for further suppressing noise from the supplied output voltage.[:]]

wherein the suppression means isolates the filtering means from a loading means
in communication with the suppression means [[: and]],

the supply means is directly coupled to the suppression means, and

[[wherein]] the loading means includes a regulator loop means for generating a
consistent output voltage.

22. (Currently amended) A circuit, comprising:

supply means for supplying an output voltage;

suppression means for suppressing noise from the supplied output voltage and
converting the supplied output voltage into a relatively constant current; and

filtering means arranged between the supply means and the suppression means,
the filtering means for further suppressing noise from the supplied output voltage.[:]]

wherein the suppression means isolates the filtering means from a loading means
in communication with the suppression means[[: and]],

the supply means is directly coupled to the suppression means, and

[[wherein]] the loading means includes a voltage reference generator means for
generating a reference voltage.

23. (Currently amended) A circuit, comprising:

supply means for supplying an output voltage;

suppression means for suppressing noise from the supplied output voltage and
converting the supplied output voltage into a relatively constant current; and

filtering means arranged between the supply means and the suppression means,
the filtering means for further suppressing noise from the supplied output voltage.[:]]

wherein the suppression means isolates the filtering means from a loading means
in communication with the suppression means[[: and]],

the supply means is directly coupled to the suppression means, and

Applicant : Shafiq M. Jamal et al..
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 6 of 30

Attorney's Docket No.: MP0430 / 13361-083001

[[wherein]] the loading means includes a voltage controlled oscillator means for generating an output signal having a pre-determined oscillation frequency.

24-25. (Cancelled)

26. (Currently amended) A circuit, comprising:
supply means for supplying an output voltage; and
suppression means for suppressing noise from the supplied output voltage and
converting the supplied output voltage into a relatively constant current[; and]],
wherein the supply means includes a plurality of charge-pump means, the supply means being directly coupled to the suppression means.

27. (Original) The circuit of claim 26, wherein the suppression means rejects voltage variations from an output voltage of the plurality of charge-pump means.

28. (Original) The circuit of claim 26, further comprising:
a filtering means including one or more filter means arranged between the plurality of charge-pump means and the suppression means, the one or more filter means for further suppressing noise from the output voltage of the plurality of charge-pump means.

29. (Original) The circuit of claim 28, wherein at least one of the one or more filter means includes a bypass capacitance means.

30. (Currently amended) The circuit of claim 26 [[28]], wherein the suppression means includes a plurality of current mirror means in communication with a plurality of loading means, each current mirror means for providing a relatively constant current source to a corresponding loading means and suppressing noise from an output voltage of a corresponding charge-pump means.

31. (Original) The circuit of claim 30, wherein the plurality of loading means includes a plurality of regulator loop means for generating a consistent output voltage.

Applicant : Shafiq M. Jamal et al..
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 7 of 30

Attorney's Docket No.: MP0430 / 13361-083001

32. (Original) The circuit of claim 30, wherein the plurality of loading means includes a plurality of voltage reference generator means for generating a reference voltage.

33. (Original) The circuit of claim 30, wherein the plurality of loading means includes a plurality of voltage controlled oscillator means for generating an output signal having a pre-determined oscillation frequency.

34-37. (Cancelled)

38. (Currently amended) A method of suppressing noise, comprising:
providing an output voltage with a supply apparatus having an associated noise component;

suppressing the noise component with a suppression apparatus in the output voltage including supplying a relatively constant current in response to the output voltage and including directly coupling the supply apparatus with the suppression apparatus;

filtering the output voltage with a filter [[filtering]] apparatus to further suppress the noise component; and

isolating the filter apparatus from a load circuit receiving the relatively constant current source[[: and]],

wherein isolating the filter apparatus includes isolating the filter apparatus from a regulator loop operable to generate a consistent output voltage.

39. (Currently amended) A method of suppressing noise, comprising:
providing an output voltage with a supply apparatus having an associated noise component;

suppressing the noise component with a suppression apparatus in the output voltage including supplying a relatively constant current in response to the output voltage and including directly coupling the supply apparatus with the suppression apparatus;

filtering the output voltage with a filter [[filtering]] apparatus to further suppress the noise component; and

Applicant : Shafiq M. Jamal et al.
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 8 of 30

Attorney's Docket No.: MP0430 / 13361-083001

isolating the filter apparatus from a load circuit receiving the relatively constant current source[; and]],

wherein isolating the filter apparatus includes isolating the filter apparatus from a voltage reference generator operable to generate a reference voltage.

40. (Currently amended) A method of suppressing noise, comprising:
providing an output voltage with a supply apparatus having an associated noise component;

suppressing the noise component with a suppression apparatus in the output voltage including supplying a relatively constant current in response to the output voltage and including directly coupling the supply apparatus with the suppression apparatus;

filtering the output voltage with a filter [[filtering]] apparatus to further suppress the noise component; and

isolating the filter apparatus from a load circuit receiving the relatively constant current source[; and]],

wherein isolating the filter apparatus includes isolating the filter apparatus from a voltage controlled oscillator operable to generate an output signal having a pre-determined oscillation frequency.

41. (Cancelled)

42. (Currently amended) A method of suppressing noise, comprising:
providing an output voltage having an associated noise component by using a supply apparatus; [[and]]

suppressing the noise component in the output voltage including supplying a relatively constant current in response to the output voltage by using a suppression apparatus directly coupled to the supply apparatus; and [[,]]

providing the output voltage to a load circuit from a plurality of charge-pumps, and suppressing noise from the output voltage of the plurality of charge-pumps.

Applicant : Shafiq M. Jamal et al.
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 9 of 30

Attorney's Docket No.: MP0430 / 13361-083001

43. (Original) The method of claim 42, wherein suppressing the noise component includes rejecting variations in the output voltage of the plurality of charge-pumps.

44. (Currently amended) The method of claim 43, further comprising:
filtering the output voltage to suppress noise including providing a plurality of filters arranged between the plurality of charge-pumps and a a ~~the~~ current mirror.

45. (Original) The method of claim 44, wherein filtering the output voltage to suppress noise includes providing a bypass capacitance.

46. (Currently amended) The method of claim 42 ~~[[44]]~~, further comprising:
suppressing a noise component in the output voltage including providing a plurality of current mirrors that are operable to supply the ~~[[a]]~~ relatively constant current to a ~~[[like]]~~ plurality of load circuits.

47. (Original) The method of claim 46, wherein:
supplying the relatively constant current includes supplying the relatively constant current to a plurality of regulator loops, each regulator loop operable to generate a consistent output voltage.

48. (Original) The method of claim 46, wherein:
supplying the relatively constant current includes supplying the relatively constant current to a plurality of voltage reference generators, each voltage reference generator operable to generate a reference voltage.

49. (Original) The method of claim 46, further comprising:
supplying the relatively constant current includes supplying the relatively constant current to a plurality of voltage controlled oscillators, each voltage controlled oscillator operable to generate an output signal having a pre determined oscillation frequency.

50. (Currently amended) An Ethernet transceiver, comprising:

Applicant : Shafiq M. Jamal et al.
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 10 of 30

Attorney's Docket No.: MP0430 / 13361-083001

a transmitter;
a receiver;
a charge-pump operable to supply an output voltage to a current mirror;
the current mirror arranged between the charge-pump and a voltage regulator and being directly coupled to the charge-pump, the current mirror operable to supply a relatively constant current to the voltage regulator and suppress noise from the output voltage of the charge-pump; and
the voltage regulator further in communication with at least one of the transmitter and the receiver, the voltage regulator operable to provide a relatively constant voltage to the at least one of the transmitter and the receiver.

51. (Original) The Ethernet transceiver of claim 50, further comprising:
a filter arranged between the charge-pump and the current mirror, the filter operable to further suppress noise from the output voltage of the charge-pump.
52. (Original) The Ethernet transceiver of claim 51, wherein the filter includes a bypass capacitance.
53. (Original) The Ethernet transceiver of claim 51, wherein the current mirror is operable to isolate the filter from the voltage regulator.
54. (Original) The Ethernet transceiver of claim 53, wherein the voltage regulator includes a regulator loop operable to generate a consistent output voltage.
55. (Original) The Ethernet transceiver of claim 53, wherein the voltage regulator includes a voltage reference generator operable to generate a reference voltage.
56. (Original) The Ethernet transceiver of claim 53, wherein the voltage regulator includes a voltage controlled oscillator operable to generate an output signal having a pre-determined oscillation frequency.

Applicant : Shafiq M. Jamal et al..
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 11 of 30

Attorney's Docket No.: MP0430 / 13361-083001

57. (Original) The Ethernet transceiver of claim 50, wherein the current mirror is operable to reject variations in the output voltage of the charge-pump.

58. (Original) The Ethernet transceiver of claim 50, further comprising:
a plurality of charge-pumps operable to supply an output voltage, the current mirror operable to suppress noise from the output voltage of the plurality of charge-pumps.

59. (Original) The Ethernet transceiver of claim 58, further comprising:
one or more filters arranged between the plurality of charge-pumps and the current mirror, the one or more filters operable to further suppress noise from the output voltage of the plurality of charge-pumps.

60. (Original) The Ethernet transceiver of claim 59, wherein at least one of the one or more filters includes a bypass capacitance.

61. (Original) The Ethernet transceiver of claim 58, wherein the current mirror is operable to reject variations in the output voltage of the plurality of charge-pumps.

62. (Original) The Ethernet transceiver of claim 50, wherein the Ethernet transceiver is compliant with IEEE 1000BaseT.

63-66. (Cancelled)

67. (Currently amended) An Ethernet transceiver, comprising:
transmitter means for transmitting a signal;
receiver means for receiving a signal; and
supply means for supplying an output voltage to a noise suppression means, the noise suppression means for suppressing noise from the supplied output voltage and converting the supplied output voltage into a relatively constant current, and supplying the relatively constant current to a loading means,[[;]]

wherein the noise suppression means comprises:

Applicant : Shafiq M. Jamal et al..
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 12 of 30

Attorney's Docket No.: MP0430 / 13361-083001

filtering means for further suppressing noise from the supplied output voltage₁[[;]]
wherein noise suppression means isolates the filtering means from the loading
means₁[[;]]

the supply means is directly coupled to the noise suppression means, and
[[wherein]] the loading means includes a regulator loop means for generating a
consistent output voltage.

68. (Currently amended) An Ethernet transceiver, comprising:
transmitter means for transmitting a signal;
receiver means for receiving a signal; and
supply means for supplying an output voltage to a noise suppression means, the
noise suppression means for suppressing noise from the supplied output voltage and converting
the supplied output voltage into a relatively constant current, and supplying the relatively
constant current to a loading means₁[[;]]

wherein the noise suppression means comprises:
filtering means for further suppressing noise from the supplied output voltage₁[[;]]
wherein noise suppression means isolates the filtering means from the loading
means₁[[;]]

the supply means is directly coupled to the noise suppression means, and
[[wherein]] the loading means includes a voltage reference generator means for
generating a reference voltage.

69. (Currently amended) An Ethernet transceiver, comprising:
transmitter means for transmitting a signal;
receiver means for receiving a signal; and
supply means for supplying an output voltage to a noise suppression means, the
noise suppression means for suppressing noise from the supplied output voltage and converting
the supplied output voltage into a relatively constant current, and supplying the relatively
constant current to a loading means₁[[;]]

Applicant : Shafiq M. Jamal et al.
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 13 of 30

Attorney's Docket No.: MP0430 / 13361-083001

wherein the noise suppression means comprises:
filtering means for further suppressing noise from the supplied output voltage,[[;]]
wherein noise suppression means isolates the filtering means from the loading
means,[[;]]

the supply means is directly coupled to the noise suppression means, and
[[wherein]] the loading means includes a voltage controlled oscillator means for
generating an output signal having a pre-determined oscillation frequency.

70-71. (Cancelled)

72. (Currently amended) An Ethernet transceiver, comprising:
transmitter means for transmitting a signal;
receiver means for receiving a signal; and
supply means for supplying an output voltage to a noise suppression means, the
noise suppression means for suppressing noise from the supplied output voltage and converting
the supplied output voltage into a relatively constant current, and supplying the relatively
constant current to a loading means[[; and]],

wherein the supply means includes a plurality of charge-pump means, and
the supply means is directly coupled to the noise suppression means.

73. (Original) The Ethernet transceiver of claim 72, wherein the noise suppression
means further includes:

a filtering means including one or more filter means in communication with the
plurality of charge-pump means, the one or more filter means operable to suppress noise from an
voltage output of the plurality of charge-pump means.

74. (Original) The Ethernet transceiver of claim 73, wherein at least one of the one or
more filter means includes a bypass capacitance means.

75. (Original) The Ethernet transceiver of claim 72, wherein the noise suppression
means rejects voltage variations from the output of the plurality of charge-pump means.

Applicant : Shafiq M. Jamal et al.
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 14 of 30

Attorney's Docket No.: MP0430 / 13361-083001

76. (Currently amended) An Ethernet transceiver, comprising:
transmitter means for transmitting a signal;
receiver means for receiving a signal; and
supply means for supplying an output voltage to a noise suppression means, the
noise suppression means for suppressing noise from the supplied output voltage and converting
the supplied output voltage into a relatively constant current, and supplying the relatively
constant current to a loading means[[]; and]],

wherein the Ethernet transceiver is compliant with IEEE 1000BaseT, and
the supply means is directly coupled to the noise suppression means.

77. (Cancelled)

78. (Original) The circuit of claim 12, wherein the bypass capacitance includes a
bypass capacitor.

79. (Cancelled)

80. (Original) The circuit of claim 29, wherein the bypass capacitance means
includes a bypass capacitor means.

81. (Cancelled)

82. (Original) The method of claim 45, wherein providing a bypass capacitance
includes providing a plurality of bypass capacitors.

83. (Original) The Ethernet transceiver of claim 52, wherein the bypass capacitance
includes a bypass capacitor.

84. (Original) The Ethernet transceiver of claim 60, wherein the bypass capacitance
includes a bypass capacitor.

85. (Cancelled)

Applicant : Shafiq M. Jamal et al..
Serial No. : 10/802,364
Filed : March 16, 2004
Page : 15 of 30

Attorney's Docket No.: MP0430 / 13361-083001

86. (Original) The Ethernet transceiver of claim 74, wherein the bypass capacitance means includes a bypass capacitor means.